ON SCENE

THE NATIONAL MARITIME SAR REVIEW

DEPARTMENT OF TRANSPORTATION

U.S. COAST GUARD

ISSUE NO. 2 -79

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FROM THE SEVENTH COAST GUARD DISTRICT

The following items from the Seventh District's "Miami Operations Center Newsletter are reprinted for exchange of information purposes. They explain district practices which might be useful elsewhere.

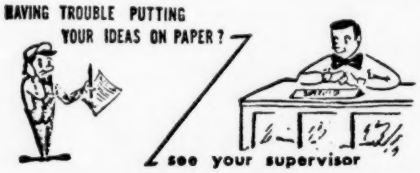
OPERATIONS CENTER DUTY OFFICER TRAINING

Many Junior Officers assigned to the District Staff do not become involved with the operational aspect of the Coast Guard. They complete their assignment and are transferred to operational billets without the background experience which could be derived from minimal exposure to an OPCEN environment. Therefore, Duty Officer training is being scheduled one-half day each week to provide operational exposure and training for Junior Officers and to develop a pool of trained personnel to augment the Operations Center during crucial periods.

CITIZENS BAND (CB) RADIO MONITORING TEAM

Located throughout the District are Radio Emergency Action Teams (REACTs), Police CB Monitor Rooms, and other organizations and private individuals who monitor CB radio channels and report SAR cases to our units. In several instances, the CB monitor has had direct two-way communications with a distress vessel and had failed to obtain information necessary to prosecute the case completely.

All units are to make contact with local CB monitoring organizations and provide them with detailed SAR Incident Information Sheets. Units should stress the need for obtaining the registration numbers and name/address of the owner and operator of the distress vessel. Continuous liaison with CB monitors is necessary to insure adequate response to mariners in distress.



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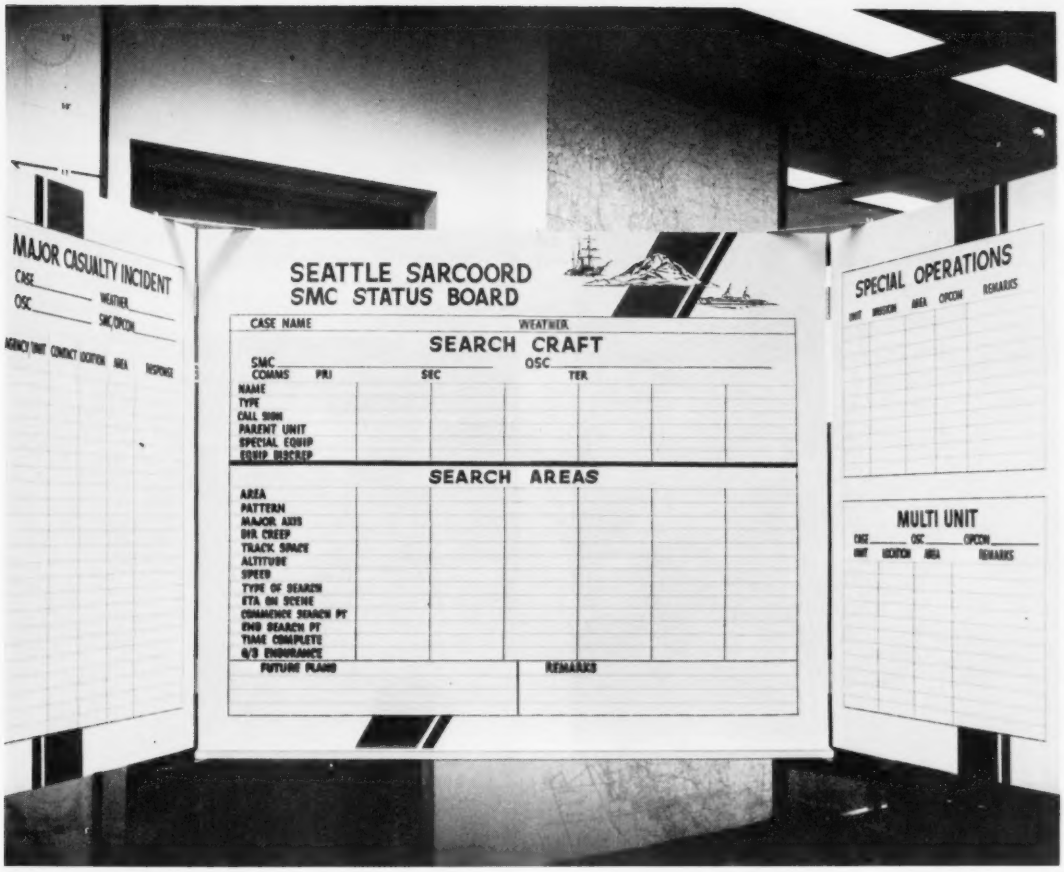
FROM THE 13TH COAST GUARD DISTRICT OPCEN/RCC STATUS BOARD



The accompanying photo is a picture of the Thirteenth Coast Guard District's Operations Center/Rescue Coordination Center (OPCEN/RCC) status board.

The board is designed to provide a display of SAR cases, major casualty incidents, multi-unit and special operations related information in which the OPCEN/RCC is involved. National SAR Manual requirements for RCC status boards are included on the center display. The left is for major casualty incidents, while on the right hand section multi-unit case activities, and special operations (law enforcement) can be displayed.

The board is constructed of a plastic laminate and is mounted on chrome legs with heavy duty casters. This makes the board portable and easily moved about as needed. The board consists of three sections, the outer two folding in when not in use. An erasable, quick drying liquid chalk pen is used to write on the laminate. Each facing folding door is covered with cork serving as a bulletin and press board. The dimensions of the board are approximately 5' X 4' and 6' from floor to top.

Further information can be obtained by contacting CCGDTHIRTEEN (opc), 915 Second Ave., Seattle, WA 98174 or by calling (FTS) 399-5886.

GOVERNORS ISLAND UNITS BATTLE LARGE WATERFONT BLAZE--A PICTURE STORY

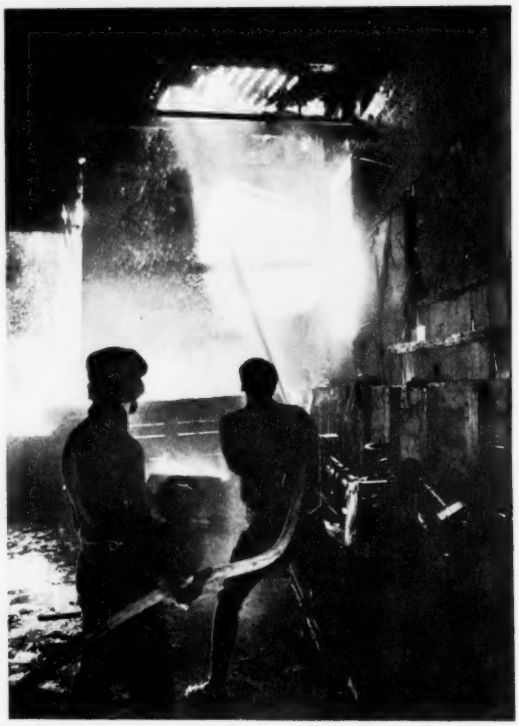
On February 8, Governors Island Coast Guardsmen battled the largest waterfront inferno in years at Bush Terminal in Brooklyn.

Sixty personnel manning seven boats and cutters including the SAUK, MAHONING and HAWSER fought the blaze exposed to flying shrapnel from expoding cannisters in freezing temperatures for two and a half hours before bringing it under control.

According to the Associated Press, 35 land based fire companies along with fire boats, an Army Corps of Engineers vessel and several civilian tug boat companies were also involved in the operation.

The cutter MAHONING (WYTM 91) along with various New York harbor tugs, police and fire boats play streams of water on burning Bush Terminal Pier in Red Hook section of New York's Borough of Brooklyn on February 8.

Most of Group New York's patrol craft and cutters rushed to the fire battling the flames for nearly two and a half hours before bringing it under control.



Station New York Coast Guardsmen BM2 Bill GEHLSEN (manning nozzle) and SN Timothy JABLONSKI put out fire in roof of warehouse using hose from 41 foot utility boat.

Coast Guard boats and cutters line up to throw thousands of gallons of water into the now smoldering pier.

Only yards from the fire, BM2 Mark BOOTH (left) and MK3 Robert NAIFEH hose down high pressure gas containers to keep them from exploding. Heat was so intense the men could only remain in position long enough to aim the hose, then they had to seek shelter in boat's cockpit.

Manning a hose from a 41-foot utility boat, Coast Guardsmen enter the blazing pier to extinguish pockets of fire. They are, from left, MK3 Robert NAIFEH, SA Peter MUTIGNANI, and SN Timothy JABLONSKI.

Seaman Apprentice Peter MUTIGNANI clings to the top of 32-footer as he aims the high capacity water jet.

VISUAL DETECTION EXPERIMENT

In October of 1978, the first in a series of experiments was conducted in an R&D project aiming at better visual detection estimates.

Block Island Sound served as the laboratory. 82 and 95 foot cutters, 41 and 44 foot boats, helicopters, and fixed wing aircraft acted as search platforms. White 16 foot boats, anchored at known locations were the targets.

A microwave ranging system kept track of searchers and targets. The method made it possible to collect very accurate information on targets detected and targets missed. A total of 695 detection possibilities were experienced.

The experiment verified that visibility, wind speed, swell height and cloud cover affect sweep width. It also confirmed intuitive beliefs that search unit type (boat, cutter, helicopter, fixed wing) and length of time searching affect sweep widths. Of greatest significance was the promise that all of these effects can be measured - thus leading to accurate estimates.

CONCLUSIONS OF THE EXPERIMENT

The following conclusions were drawn from the results:

1. An increase in search speed by fixed wing aircraft reduced sweep width, while an increase in search speed for helicopters, cutters and boats did not reduce sweep width. The maximum search speed used by helicopters was 90 kts and the minimum used by fixed wing was 120 kts. Thus it can be said that helicopters, cutters and boats in use today should search for 16 foot and larger boats at the maximum speed that environmental conditions permit. For fixed wing, there appears to be some optimum of speed-of-coverage of an area versus coverage effectiveness which should be explored in future experiments.

2. Surface craft search performance degraded more rapidly, as environmental conditions grew worse, than the SAR Manual predicts. Not enough data was obtained to see if the same is true for aircraft.

3. A significant reduction in sweep width over the course of a search was observed for surface craft and helicopters. Unexplored human factors (i.e. fatigue, comfortability, motivation), are believed to be the cause of this.

4. Evidence suggests that the effect of wind speed on sweep width may be somewhat different than given by the SAR Manual between 0 and 10 kts. The experiment indicated that the sweep width continuously decreased as wind speed increased. Further investigation of this question will be made in subsequent experiments.

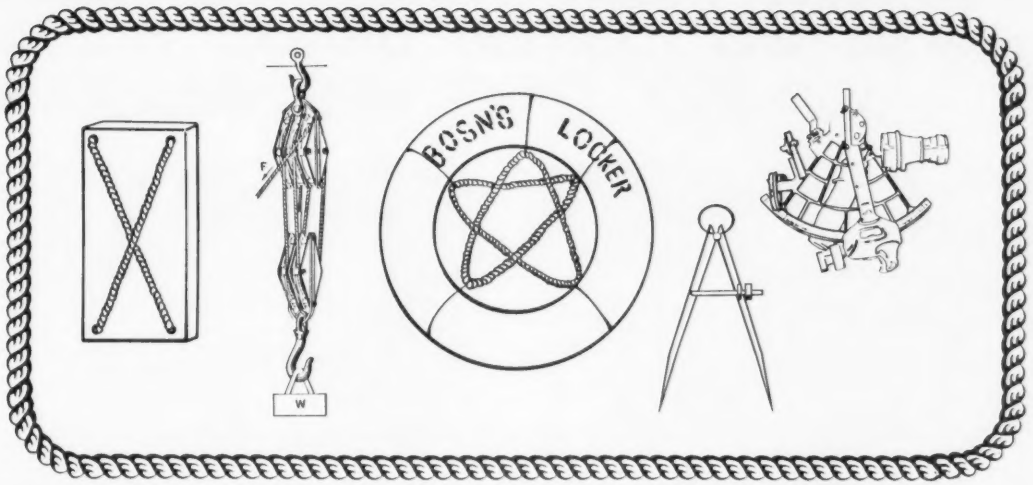
5. The type of search unit was significant. Cutters performed better than SAR boats and helicopters outperformed fixed wing. Future sweep width tables will need to reflect such differences. Altitude differences may have caused some of the differences between helicopters and fixed wing but not enough data was gathered to measure altitude effects in this experiment.

6. Under the more extreme environmental conditions the number of targets missed close to the search units track raised some questions on the probability of detection curves presently used in the SAR Manual. This needs to be explored further.

7. While the amount of data collected with a white 16 foot boat target provided a good deal of confidence about the validity of the results, the limited range of environmental conditions experienced restricts the use of the results to winds 20 kts or less and visibilities greater than 7 nautical miles. Further experiments are being planned for FY79 and 80.

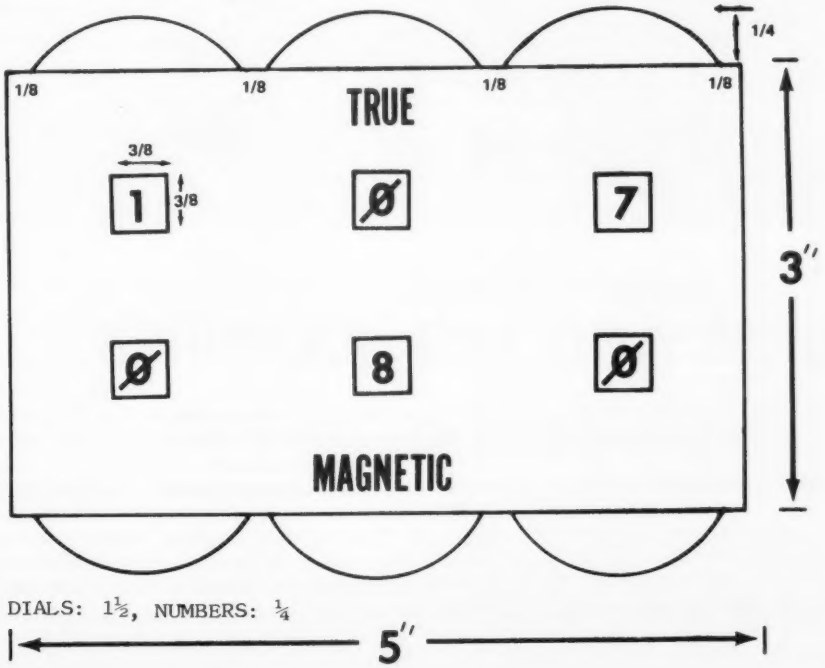
FUTURE EXPERIMENTS

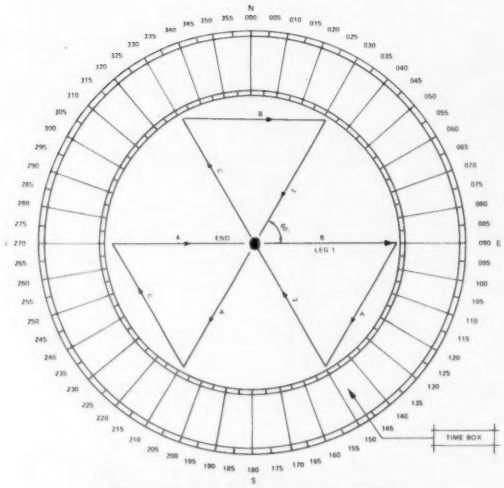
The October 1978 experiment is part of a larger project being conducted by the R&D Center on means-to-measure the effectiveness of search. We can expect that this project will eventually lead to significant changes in search doctrine.



COXSWAIN, HOW'S YOUR MEMORY?

Ever forget where you're going? When you set out on a straight course, its easy to remember the correct heading. But if you are diverted on another mission or forced to change course several times, it's not hard to lose track of all those numbers. Of course, they should be written on your chart as you plot the course(s). But YN2 Hugh D. McCRUMMEN III from the Support Facility, Seattle, has an idea; construct a simple box display, with numbered rotary dials which can be changed to show the desired True and Magnetic course at all times. The display can be locally fabricated and mounted atop the instrument console of any boat or cutter.





COURSE AND LEG IDENTIFIER FOR SECTOR SEARCH PATTERNS–(VS)–60° CENTRAL ANGLES

TIME AND DISTANCE TABLE

SPEED

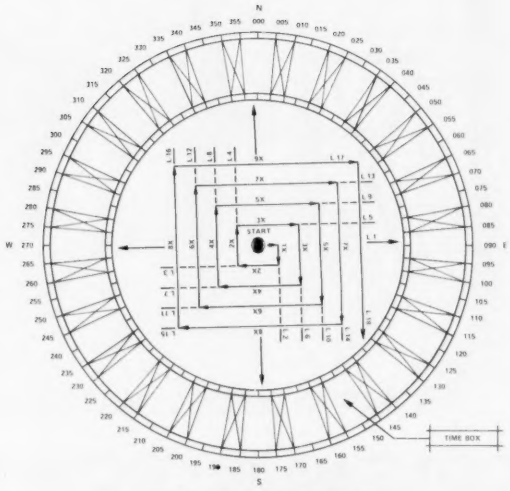
NAUTICAL MILES	5Kts	8Kts	10Kts	12Kts	15Kts	18Kts	20Kts
	M:S	M:S	M:S	M:S	M:S	M:S	M:S
5	6:00	3:45	3:00	2:30	2:00	1:40	1:30
1	12:00	7:30	6:00	5:00	4:00	3:20	3:00
1.5	18:00	11:15	9:00	7:30	6:00	5:00	4:30
2	24:00	15:00	12:00	10:00	8:00	6:40	6:00
2.5	30:00	18:45	15:00	12:30	10:00	8:20	7:30
3	36:00	22:30	18:00	15:00	12:00	10:00	9:00
3.5	42:00	26:15	21:00	17:30	14:00	11:40	10:30
4	48:00	30:00	24:00	20:00	16:00	13:20	12:00
4.5	54:00	33:45	27:00	22:30	18:00	15:00	13:30
5	60:00	37:30	30:00	25:00	20:00	16:40	15:00
5.5		41:15	33:00	27:30	22:00	18:20	16:30
6		45:00	36:00	30:00	24:00	20:00	18:00
6.5		48:45	39:00	32:30	26:00	21:40	19:30
7		52:30	42:00	35:00	28:00	23:20	21:00
7.5		56:15	45:00	37:30	30:00	25:00	22:30
8			48:00	40:00	32:00	26:40	24:00
	M:S	M:S	M:S	M:S	M:S	M:S	M:S

M = MINUTES
S = SECONDS

1. PLACE LEG NUMBER 1 INDEX ON HEADINGS OF FIRST SEARCH LEG.
2. THE LETTERS ON THE CROSS LEGS INDICATE THE NUMBERS PARALLEL RADIAL LEG FOR DETERMINING EACH CROSS LEG HEADING.

OBVERSE SIDE

INNER DISC ROTATES TO PROVIDE COURSES TO STEER FOR SECTOR SEARCH PATTERN



COURSE AND LEG IDENTIFIER FOR EXPANDING SQUARE PATTERN – (SS)

TIME AND DISTANCE TABLE

SPEED

NAUTICAL MILES	5Kts	8Kts	10Kts	12Kts	15Kts	18Kts	20Kts
	M:S	M:S	M:S	M:S	M:S	M:S	M:S
5	6:00	3:45	3:00	2:30	2:00	1:40	1:30
1	12:00	7:30	6:00	5:00	4:00	3:20	3:00
1.5	18:00	11:15	9:00	7:30	6:00	5:00	4:30
2	24:00	15:00	12:00	10:00	8:00	6:40	6:00
2.5	30:00	18:45	15:00	12:30	10:00	8:20	7:30
3	36:00	22:30	18:00	15:00	12:00	10:00	9:00
3.5	42:00	26:15	21:00	17:30	14:00	11:40	10:30
4	48:00	30:00	24:00	20:00	16:00	13:20	12:00
4.5	54:00	33:45	27:00	22:30	18:00	15:00	13:30
5	60:00	37:30	30:00	25:00	20:00	16:40	15:00
5.5		41:15	33:00	27:30	22:00	18:20	16:30
6		45:00	36:00	30:00	24:00	20:00	18:00
6.5		48:45	39:00	32:30	26:00	21:40	19:30
7		52:30	42:00	35:00	28:00	23:20	21:00
7.5		56:15	45:00	37:30	30:00	25:00	22:30
8			48:00	40:00	32:00	26:40	24:00
	M:S	M:S	M:S	M:S	M:S	M:S	M:S

M = MINUTES
S = SECONDS

1. PLACE INDEX (ARROW NUMBER 1) ON HEADING OF FIRST SEARCH LEG. HEADINGS OF ALL LEGS ARE SHOWN BY THE CORRESPONDING PARALLEL INDEX ARROWS.
2. RECORD TIME TO TURN IN THE TIME BOX FOR EACH LEG. LEG NUMBERS ARE SHOWN ON LEG EXTENSION LINES.

REVERSE SIDE

INNER DISC ROTATES TO PROVIDE COURSES TO STEER FOR EXPANDING SQUARE PATTERN

COURSE AND LEG IDENTIFIER

The course and leg identifier pictured here has been distributed to assist boats in conducting VS and SS type searches. The device is made of waterproof plastic.

Course and Leg Identifiers were first issued as a cut-out device in ON SCENE's predecessor, THE NATIONAL MARITIME SAR REVIEW, Spring/Summer 1971 issue. The existing device was designed by CDR T. H. SIVILS, USCG and first issued by the Third Coast Guard District. In 1978, on the strong recommendation of Commander, Thirteenth District, a quantity was procured by the Commandant and issued servicewide for small boat use. Instructions for use are on each device, as can be seen from the accompanying photos.

RECOMMENDATION FROM FIRST COAST GUARD DISTRICT ON NEW ENGLAND FISH EXPO 1978

At the New England FISH EXPO - October 1978, personnel from the First Coast Guard District manned exhibits (See photo) and chaired a seminar on rescue and survival. Of concern to SAR personnel is the fact that considerable interest was shown by fishing interests in life rafts, survival suits and Emergency Position Indicator Radio Beacons (EPIRBs). Concern was also expressed about terms used by Coast Guard personnel when communicating with fishing vessels - it was felt that lay terms (e.g. local time instead of GMT) should be used in order to promote better understanding.

SUGGESTIONS FOR DISTRICTS

On completion of the EXPO, Commander, First Coast Guard District suggested the following actions for other districts:

1. Participate in future fish EXPOs. Use materials and plans which have been successful to avoid duplication of effort.

2. Insure that SAR station watchstanders use simple, direct language in communications with mariners. Use local time, be aware of local names for geo-

graphic areas, and be familiar with how, where and when fishermen fish.

3. Encourage boarding parties to provide advice beyond regulations in cases where the Commandant has made decisions that the Coast Guard support the use of certain equipment, such as: EPIRBs, survival suits, etc. Boarding parties should be equipped to hand out information guides such as D1 INST P16703.1A. (Editor's Note: *The latter is a pamphlet handout which contains required and recommended equipment and practices*).

RECOMMENDATIONS FOR HEADQUARTERS

Commander, First District also submitted the following recommended actions for the Commandant:

1. Encourage district participation in fish EXPOs which are held throughout the country and Puerto Rico.

2. The Exhibit Center should develop a SAR display and update the environmental display.

3. Revise the current boarding report form to include recommended equipment.

4. Pursue items brought forth at the rescue and survival seminar. In particular we should move forward on requiring EPIRBs, life rafts, and survival suits.

WRAP-UP COMMENT

The recommendations are being given serious consideration at Headquarters. In the meantime much can be done in the field to encourage owners of fishing vessels to carry adequate emergency equipment as this report demonstrates. The purpose of this article is to make everyone aware of the First District's experience and encourage other efforts along the same line.

NEW BATTLESHIP FENDER AVAILABLE

There is a new type Battleship Fender available from national stock. This 24" x 36" fender is foam-filled covered with a tough urethane skin. The end fittings are attached via a urethane-coated nylon web net so there is no internal pipe or wire. Because of this the fender is deformable in any direction. It can withstand a 12,000 lb. pull along the long axis. The urethine coating is pigmented. haze gray and is scuff resistant to avoid making marks. These fenders float even if holed and due to the nature of the foam filling will absorb little water.

Fender, Marine, Ship, Type II

Stock No. 1H2040-00-807-4197

Cost $530.00

Distribution (SDL No. 108)

A: v(6);u(5);acdefghmn(3);ijkly(2);prs(1)
B: g(40);ce(25);fhn(10);b(5);ij(3);kn(2);lopqst(1)
C: a(5);bdi(3);ot(2);efghjmnprsuw(1)
D: ltuvx(2);adgjknoqyz(1)
E: kln(1)
: bcjkmp(1)
H: abceg(1)
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